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QUARTERLY BRIEFINGS, JANUARY TO MARCH 2007

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¶1. (U). Summary: This is the first issue for 2007 of the South African Environment, Science and Technology newsletter, January to March Volume 1, Number 6, prepared by the U.S. Embassy Pretoria, South Africa.

Topics of the newsletter:

- SA Leads an Afro-Euro Team to Prestigious EU Science Award
- Nuclear Plant Blamed for Ill Health and Environmental Degradation
- Africa's Only Green Bank - Nedbank
- Limpopo Communities Encouraged to Learn About Climate
- South Africa Builds a New Dam and Celebrates National Water Week
- Environmental Minister Defies Public and Bans 4x4 Vehicles on SA Beaches
- South Africa's Busiest Landfill Site to Generate Clean Electricity
- High Waters Break Down Barrier Between Ocean and Lake St. Lucia
- South African Government Rejects the Planting of GM Maize for Bi-Fuels Industry
- Strong Sea Waves Batter Durban Coastline and Create Business Losses
- U.S. Scientist Encourages SA Youth to Join Race to Mars

End Summary.

¶2. SA LEADS AN AFRO-EURO TEAM TO PRESTIGIOUS EU SCIENCE AWARD

A team of South African scientists working in cooperation with counterparts from Africa and Europe have won the European Union's prestigious "Descartes Prize for Science" for their pioneer research work on the Milky Way galaxy using the High Energy Stereoscopic System (HESS) gamma rays telescopes. The four "Chervchenko" telescopes based in Namibia but owned by SA, are able to detect faint bursts of blue light emitted by the high energy gamma rays as they pass through the atmosphere of the earth. In three years of its existence, the HESS has proven that cosmic rays originate from old exploding stars, a concept that remained only a theory until the telescope revealed the solid supporting evidence. The telescope has also located other sources of gamma rays in the Milky Way central region; these sources were seen clearly for the first with the HESS telescope.

¶3. NUCLEAR PLANT BLAMED FOR ILL HEALTH AND ENVIRONMENTAL DEGRADATION

Mashile Phalane, a representative of the Nuclear Energy Costs the Earth (NECTEC) led a group of Atteridgeville residents worried about

the impact of a neighboring nuclear plant on their health and environment. Phalane said that they have also discussed supporting a potential lawsuit by nine laid off former workers of the nuclear plant, who allege that they became ill from exposure to radiation from nuclear waste. Phalane argues that the National Environmental Management Act allows "participation of all interested parties in the environmental governance." The Nuclear Energy Regulatory Act, however, only allows participation by communities living within a five kilometer radius from a nuclear plant to participate in the decision-making process. Phalane describes this regulatory contradiction as a "miscarriage of the constitution". NECTEC, an anti-nuclear community-based group, has been trying to raise community awareness and involvement in the decisions regarding the development nuclear power plants and nuclear waste smelters.

14. AFRICA'S ONLY GREEN BANK - NEDBANK

Nedbank financier and environmental lawyer Justin Smith announced that Nedbank has become the first and only bank in Africa that has adopted an environmental benchmark for promoting sustainable development, known as the "Equator Principles." Nedbank's environmental advisor, Christina Wood defines the Equator Principles as "a comprehensive set of environmental and social guidelines for the financing of projects". Forty-one financial institutions have adopted the principles worldwide representing 80 percent of this year's global project financing. The benchmark is aimed at promoting socially responsible development, and to ensure that projects financed by the banks reflect sound environmental management practices. Nedbank has begun recycling programs for paper and water, and has also adopted the use of a variety of low energy devices. A Nedbank study reports that over 70 percent of the staff is proud to be working for a bank with a commitment to the community and the environment. Smith notes that most South African leading firms are not participating in this initiative. He said that more than 40 percent of the top 40 companies in the Johannesburg Security Exchange do not have an environmental officer, and about 16 percent have either weak or no sustainable development reports. Smith also opines that the SA government has not worked well on

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commercially sustainable development policies. He notes that the government did not include sustainable development in the Black Economic Empowerment (BEE) charters. He also commented that the civil society has remained too silent on the issue of sustainable development promotion within financial institutions.

15. LIMPOPO PROVINCE COMMUNITIES ENCOURAGED TO LEARN ABOUT CLIMATE Department of Environmental Affairs and Tourism (DEAT) official Moses Rannditsheni urged all South Africans to become more aware about climate change and its potential impact on the weather and people's lives. Rannditsheni said that the livelihoods and food security of many rural and some poor communities depended on favorable weather conditions. Extreme drought and floods are disasters which impact on agriculture, the main source of livelihood for rural communities. Because rural communities are the most vulnerable, they have to be equipped with practical knowledge on weather dynamics, to allow them to survive and adapt to changing environmental circumstances. DEAT and the South African Weather Services (SAWS) have embarked on an awareness and teaching program for the communities of Thohoyandou in Limpopo province, concentrating on polar meteorology and its impact on global weather conditions. The program coincided with the March 23 celebration of World Meteorological Day. Senior SAWS officials presented the latest seasonal weather forecast (April to June); University of Pretoria (UP) academics and students participated in a weather awareness project with a local college and a primary school to launch the teaching program. The Limpopo Provincial Minister of Agriculture Ms. Dikeledi Magadza presented the Tshawona Primary School with a SAWS-donated Stevenson Screen, a weather observation instrument. UP students taught primary school students how to draw fresh drinking water from low-lying clouds using fog net technology.

16. SOUTH AFRICA BUILDS A NEW DAM AND CELEBRATES NATIONAL WATER WEEK

Department of Water Affairs and Forestry (DWAF) Minister Ms. Lindiwe Hendricks launched South Africa's National Water Week (March 19-24) at a sod-turning ceremony for a new dam building project in Limpopo

province. The Minister said that National Water Week raises awareness about the need for sustainable use and management of this scarce resource. The theme of the 2007 Water Week campaign was "Water is Life - Protect our Scarce Resources". Minister Hendricks said that the new Limpopo dam project will address water shortages in Limpopo province. It will provide water to towns, industries and poorly serviced rural communities, as well as to mines which are expected to unlock vast mineral deposits in Limpopo province. Over 800,000 people based in the project area could benefit through improved and secured water supply from the dam. The dam infrastructure project is anticipated to cost government over \$750 million and has the potential to create many jobs. Construction of the dam will commence in the first quarter of 2007, while DWAF expects the first impoundment of water during the 2009/2010 rain season.

17. ENVIRONMENT MINISTER DEFIES PUBLIC AND BANS 4x4 VEHICLES ON SA BEACHES

Minister of Environmental Affairs and Tourism Marthinus Van Schalkwyk defied public outcry and announced a total ban of 4x4 vehicles on all South African (SA) beaches. DEAT has commissioned a study on the use of 4x4's on the beaches which concluded that the use of 4x4's had a negative impact on tourism, the presence of 4x4's led to increased crime and recreational vehicles should not be allowed on public beaches. The study was conducted in the Greater St. Lucia Wetland Park in Kwa-Zulu Natal province. According to the study, the number of tourists began to climb once a ban on 4x4's was announced in the summer of 2003/2004. Tourism had increased 59 percent by July 2006. Scientists also reported a significant increase in endangered seabird breeding in 2003. DEAT first introduced the ban on the use of recreational vehicles on SA beaches in 2001, but it was met with strong public opposition. DEAT then revised the regulations in 2004 and the Minister commissioned the study in St. Lucia to ascertain whether or not there was sound evidence to support a continued ban.

18. SOUTH AFRICA'S BUSIEST LANDFILL SITE TO GENERATE CLEAN ELECTRICITY

The Municipality of eThekweni (Durban) has obtained environmental approval to commence extracting methane gas to generate electricity from South Africa's busiest landfill site in Bisasar Road, Kwa Zulu Natal (KZN) province. The landfill site which handles over 5,000 garbage/tons per day, and has the potential to generate up to eight megawatts (MW) of electricity from the methane gas extracted. According to experts, the methane gas generated from garbage, which is regarded as more potent than carbon dioxide, is drawn at low pressure from the landfill and blown into a flare to generate electricity. The manager of the clean development mechanism project, Lindsay Strachan, said that there were two earlier projects which are already producing 1.8 MW at Marianhill and La Mercy in KZN province. The projects were built at a cost of \$2.7 million, with a projected revenue of \$2.9 million from carbon credit sales, and \$1,8

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million from electricity sales during a 14-year period. Strachan said that the first phase of the project will cost \$5.5 million, a part of which is to be funded from the sales of carbon credits. The eThekweni municipality has secured an \$8.2 million loan from the French Development Bank (AFD), while the Department of Trade and Industry will provide \$2.45 million for the construction of the necessary infrastructure.

19. HIGH WATERS BREAK DOWN BARRIER BETWEEN OCEAN AND LAKE ST. LUCIA
Sea waves measuring over 3.5 meters high broke down a sand barrier which had separated the ocean and Lake St. Lucia on the north coast of the Kwa-Zulu Natal province since 2001. According to local ecologists, the sand barrier had been formed through a natural process during the 2000 - 2001 drought. Heavy rain downpours, rough seas and strong easterly winds blowing waves to greater heights early also contributed to the destruction of the sand barrier. Seawater breached the sand barrier in five areas at the mouth of the lake, creating channels of between 50 meters and 80 meters wide. Wetlands Parks Authority CEO Andrew Zaloumis said that from an ecological perspective, the natural breach at the mouth of the lake is a positive event. He said large numbers of fish, prawns, crabs and other marine life will enter the lake, while lake dwellers would also venture out to sea. Water levels had receded to between 60 and 70 centimeters below sea level before the breach occurred, while 50 percent of the 36,000 hectare water surface was dry. The primary

negative aspect of the breach is that the submerged beds of estuarine water plants which flourish on low salinity may die. Lake St. Lucia is Africa's largest estuarine system, and a declared World Heritage site and Wetland of International Importance under the Ramsar Convention.

¶10. SA GOVERNMENT REJECTS PLANTING OF GM MAIZE FOR BIO-FUELS INDUSTRY

The Department of Agriculture's executive council, which regulates the Genetically Modified (GM) organisms, has rejected a seed company's application to grow GM maize in South Africa for the bio-fuel industry. US biotechnology company Syngenta wanted to plant what is known as the first industrial GM maize in the world, code named "Maize Event 3,272", but it has failed to convince the South African government (SAG) that the maize was safe for food or animal feed. Executive Council Chairman Julian Jaftha said that they were concerned that the Event 3,232 maize could mix with maize grown for food. The Council also stated that Syngenta did not use the World Health Organization's (WHO) evaluation methods to test for allergens. The African Biosafety Center, a watchdog organization monitoring the GM industry announced support for the government's decision. Syngenta had no public comment.

¶11. STRONG SEA WAVES BATTER DURBAN COASTLINE AND CREATE BUSINESS LOSSES

Strong, heavy sea waves battered the Kwa-Zulu Natal (KZN) province coastline towards the end of March, affecting favorite tourist beaches of north and south of Ethekwini (Durban). The popular beaches of Golden Mile and Ballito on the Dolphin Coast and a string of other famous beaches suffered extraordinarily strong tides coupled with high waves of over seven meters high and strong winds. This combination devastated beaches, roads, electricity, sanitation and telecommunications. Deputy Head of Fire and Disaster Management, Mark Te Water said that the beaches would remain closed for a few days, but hopefully open in time for the long Easter weekend. The two main ports of Durban and Richards Bay were also shut down temporarily. City and provincial tourism officials report that there have been only minimal tourist cancellations. One official reported that self-catering accommodations were already up to 70 percent full, while the other types of accommodation were 90 percent full. The Ethekwini city council began clean-up work immediately, removing debris from the beaches and streets, putting back the shark nets and repairing the damaged infrastructure. Provincial Premier Sbu Ndebele said damage to the south coast alone was estimated at about \$69.4 million.

¶12. U.S. SCIENTIST ENCOURAGES SA YOUTH TO JOIN RACE TO MARS

Speaking at the annual Sasol ScieFest 2007, U.S. Dr. Donald Thompson encouraged South African youth to compete for a place on the first space voyage to Mars in the next 25 years. Thompson was encouraging young people to take math, engineering and science very seriously, because they could become the next generation of scientists headed for Mars in the future. The International Space Station (ISS) scientist who has been to four space missions said that fourteen or fifteen more Shuttle missions are needed to complete the ISS work, including return trips to the moon in 2014, and to Mars within the next 25 years. Sasol ScieFest, an 11-year old national science festival, promotes scientific learning. The annual festival has over 600 events including lectures, interactive exhibitions, workshops, inter-school math marathons, school quizzes, etc. The festival also allows interaction between ordinary people and high-profile scientists.

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